



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/535,676	03/23/2000	Mayer D. Schwartz	7049 US	2181
7812	7590	11/03/2004	EXAMINER	
SMITH-HILL AND BEDELL 12670 N W BARNES ROAD SUITE 104 PORTLAND, OR 97229				FERRIS, DERRICK W
		ART UNIT		PAPER NUMBER
		2663		

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/535,676	SCHWARTZ ET AL.	
	Examiner	Art Unit	
	Derrick W. Ferris	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 03 August 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-4 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 March 2000 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/3/2004 has been entered.

Response to Amendment

1. **Claims 1-4** as amended are still in consideration for this application.
2. Examiner does not **withdraw** the obviousness rejections that use the *Haskell* in view of *Zhu* for Office action filed **03/03/04**. The examiner is still not seeing the applicant's argument. The issue again is a "smoothing buffer". In particular, the examiner notes that video data buffer 202 in figure 2 acts as a "smoothing buffer" with respect to a "variable bit rate program". Specifically, at issue may be how video data buffer 202 is loaded. Examiner notes that as underflow or overflow occurs, the video portion fed into the video buffer is of type variable bit rate. In other words, the video data buffer 202 is not the same as the 1.8 megabyte decode buffer is the MPEG standard since the video data buffer 202 is variable in length. In particular, note that the buffer size varies, see column 5, lines 47-63. Hence there are two methods to eliminate jitter, adjust the buffer size and/or adjust the jitter delay (applicant appears to only argue adjusting the jitter delay). Thus in reference to figure 2, the system decoder and SCR extract 201 performs the step of "separating a variable bit rate program composed of a sequence of pictures, each having a decode time stamp from the statistically multiplexed MPEG transport stream". What appears to be at issue is the further limitation of "loading" in reference to applicant's step

of “loading a picture from the variable bit rate program at a rate that does not exceed a desired constant bit rate into a smoothing buffer, the loading commencing a specified amount of time prior to the time indicated by the picture’s decode time stamp”. The system’s decoder 201 performs the step of loading the picture data into the buffer 202 where the size of the buffer determines a “specified amount of time” prior to that indicated by the DTS time stamp. Note that the size of the buffer changes to accommodate overflow or underflow, see e.g., column 5, lines 47-63. Finally, information is read out of the video data buffer 202 at the time specified by the DTS thus teaching the final step of “transferring the picture from the smoothing buffer at the time indicated by the pictures decode time stamp”.

Examiner notes that the time a buffer is loaded and the time information is extracted from the buffer are fundamentally different. As such, *Haskell* is primarily concerned with how information is *extracted* from video data buffer 202. In particular, the video display control 203 is used to extract the pictures from the video data buffer 202 based on the DTS value. Also shown in the diagram, the video display control 203 has no control on how the display information is loaded in to the buffer 202. Applicant appears to be arguing how the display frames are loaded into the smoothing buffer with respect to a time prior to the DTS. The display frames are loaded as they arrive into video data buffer 202 thus meeting the limitation “a specified amount of time prior to the time indicated by the picture’s decode time stamp” (i.e., if the display frames did not arrive prior to the DTS the display frames would not be displayed). More specifically, *Haskell* teaches applicant’s alleged solution of loading a buffer early with packets for a frame so that when the decode time comes the full data for the frame is available for decoding, see applicant’s specification at page 4, lines 16-20. Examiner found no further

Art Unit: 2663

support in the claims or applicant's specification on how the frames are loaded into the buffer.

Thus the examiner is not clear on what claim limitations applicant is attempting to argue. As the applicant has paid for a continuation, the examiner is making the current rejection non-final even though the same references are applied. The examiner recommends that applicant clearly state the limitation at issue and where the limitation is supported in applicant's specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,287,182 to Haskell et al. ("Haskell") in further view of U.S. Patent No. 5,534,937 A to Zhu et al. ("Zhu").

As to **claim 1**, applicant claims transferring a picture frame from the smoothing buffer prior to the picture's decoder time stamp as shown in applicant's figure 3. In particular, applicant recognizes that by transferring pictures from the smoothing buffer commencing at a specified time prior to the pictures DTS, the possibility of the decoder buffer overflow is greatly reduced and therefore the quality of the picture is greatly enhanced. *Haskell* discloses a timing recover for VBR video on ATM networks. In particular, *Haskell* discloses the importance of eliminating buffer overflow/underflow at the receiver (e.g., see column 1, lines 46-50 and column 3, lines 33-43). Specifically, *Haskell* discloses alleviating underflow prior to decoding (e.g., see column 2, lines 5-13).

See e.g., figure 2 with respect to a receiver and specifically a demultiplexing unit 200.

Shown in figure 2, *Haskell* discloses demultiplexing VBR streams of data composed of sequences for a picture based on a decode time stamp. In particular, one example of a smoothing buffer is video data buffer 202 which works in combination with a video display console 203 before entering a decoder 204 (e.g., see column 5, lines 4-20).

Examiner would like to point out that part of the purpose of the video data buffer (i.e., smoothing buffer) is to load the buffer early with packets for a frame so that when the frame's decode time comes, the full data for the frame is available for decoding. *Haskell* discloses controlling overflow by adjusting (i.e., increasing) the size of the buffer in order to load the buffer early with packets for a frame so that when the frame's decode time comes, the full data for the frame is available for decoding (e.g., see column 5, lines 46-54). *Haskell* discloses controlling buffer underflow by using a buffer fullness value used to control a jitter delay value which indirectly controls the way information is released from the buffer (e.g., see column 6, lines 9-14). Examiner would like to point out that the information is released from the buffer (i.e., "transferred" in reference to the recited claimed subject matter) based on the DTS (e.g., see column 5, lines 4-20), however, the *Haskell* also recognizes that increasing the size of a buffer (i.e., "loading" in reference to the recited claimed subject matter) helps control overflow which removes the implicit assumption that the video data buffer is only big enough to store a single image frame.

Haskell may be silent or deficient to disclosing a statistically multiplexed stream. In particular, *Haskell* discloses a VBR stream for the decoder but is silent or deficient to the type of stream before the demultiplexer (e.g., see column 1, lines 5-10). Examiner

notes that it would have been obvious to one skilled in the art prior to applicant's invention to have a statistically multiplexed MPEG transport stream. Examiner notes one skilled in the art would be motivated to multiplex various streams together for the purpose of statistical multiplexing as is inherent in ATM. As such, the background of *Haskell* cures the above-cited deficiency by disclosing that the data is statistically multiplexed (e.g., see column 20, lines 19-24). *Zhu* also helps to further clarify statistical multiplexing with respect to figure 9 for a video source (e.g., such as MPEG video). In particular, a CBR stream is sent using statistical multiplexing as VBR where it is later converted to CBR before entering a video decoder 910. *Zhu* also teaches a smoothing buffer 926 as well.

As to **claim 2**, in addition to applicant's admission in the background, see e.g., column 5, lines 13-20 of *Haskell*.

As to **claim 3**, data is saved in the video decode buffer as soon as it arrives.

As to **claim 4**, see the combined rejections for claims 1 and 3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663


DWF


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 